

## CLAIMS

What we claim is:

1. In a communications network of the type in which a first client communicates  
5 with a first server via a first link, a second server communicates with a second client via a second  
link, and the first server communicates with the second server via a third communications link, a  
method of managing quality of service for a communication between the first client and the  
second client, the method comprising:

10 operating the first server to manage quality of service for the communication on the first  
link;

operating the second server to manage quality of service for the communication on the  
second link; and

operating the first server and the second server to match quality of service on the first link  
with quality of service on the second link.

2. The method of claim 1, wherein operating the first server and the second server to  
match quality of service on the first link with quality of service on the second link comprises:

the second server mapping quality of service on the second link to corresponding quality  
of service on the first link; and

20 the second server sending to the first server via the third communications link an  
indication of the corresponding quality of service on the first link.

3. The method of claim 2, further comprising:

operating the first server to set up the corresponding quality of service on the first link.

4. The method of claim 2, wherein mapping quality of service on the second link to  
corresponding quality of service on the first link comprises:

using at least one stored translation table to identify the corresponding quality of service  
on the first link based on the quality of service on the second link.

5. The method of claim 1, wherein operating the first server and the second server to match quality of service on the first link with quality of service on the second link comprises:

the first server sending to the second server via the third communications link an indication of quality of service on the first link; and

5 the second server mapping quality of service on the first link to corresponding quality of service on the second link.

6. The method of claim 5, wherein mapping quality of service on the first link to corresponding quality of service on the second link comprises:

10 using at least one stored translation table to identify the corresponding quality of service on the second link based on the quality of service on the first link.

7. A method of facilitating establishment of end-to-end quality-of-service for a communication in a wireless telecommunications network, the communication being passed along a communication path comprising a mobile station, an air-interface, a base station, a packet data serving node, and a packet-switched network, the method comprising:

15 passing between the base station and the packet data serving node at least one quality-of-service parameter for the communication.

20 8. The method of claim 7, wherein passing between the base station and the packet-data-service-node at least one quality-of-service parameter for the communication comprises passing the at least one quality-of-service parameter in a Mobile IP vendor extension.

25 9. The method of claim 7, wherein the at least one quality-of-service parameter comprises a priority parameter.

10. The method of claim 7, wherein the at least one quality-of-service parameter comprises a data rate parameter.

11. The method of claim 7, wherein the at least one quality-of-service parameter comprises a data loss parameter.

12. The method of claim 7, wherein the at least one quality-of-service parameter comprises a data delay parameter.

13. The method of claim 7, wherein the at least one quality-of-service parameter further is indicative of quality of service for the air-interface portion of the communication path, the method further comprising:

operating the packet data serving node to map the at least one quality-of-service parameter into at least one corresponding quality-of-service parameter, the at least one corresponding quality-of-service parameter being indicative of quality-of-service for the packet-switched network portion of the communication path.

14. A method comprising:

establishing radio-link layer communication over an air interface between a mobile station and a base station;

establishing IP layer communication between the mobile station and a network access server via the base station, the network access server providing connectivity with a packet-switched network, whereby the mobile station communicates IP packets to the network access server, and the network access server transmits the IP packets into the packet-switched network;

operating the network access server to map between (i) air interface quality-of-service information and (ii) packet-switched network quality-of-service information; and

communicating air interface quality-of-service information between the base station and the network access server.

15. The method of claim 14, further comprising:

sending the air interface quality-of-service information from the base station to the network access server before the network access server performs the operating function.

16. The method of claim 14, further comprising sending the air interface quality-of-service information from the base station to the network access server in a Mobile-IP message.

17. The method of claim 16, wherein sending the air interface quality-of-service information from the base station to the network access server in a Mobile-IP message comprises sending the air interface quality-of-service information from the base station to the network access server in a Mobile-IP vendor extension.

18. The method of claim 14, further comprising:  
receiving the packet-switched network quality-of-service information at the network access server via the IP layer communication; and  
sending the air interface quality-of-service information from the network access server to the base station,

wherein, operating the network access server to map between (i) air interface quality-of-service information and (ii) packet-switched network quality-of-service information comprises operating the network access server to translate the packet-switched network quality-of-service information to the air interface quality of service information.

19. The method of claim 18, further comprising sending the air interface quality-of-service information from the network access server to the base station in a Mobile-IP message.

20. The method of claim 19, wherein sending the air interface quality-of-service information from the network access server to the base station in a Mobile-IP message comprises sending the air interface quality-of-service information from the network access server to the base station in a Mobile-IP vendor extension.

21. A method comprising:  
operating a PDSN to detect at least one Internet quality-of-service level for a mobile station;

operating the PDSN to set up the at least one Internet quality-of-service level for the mobile station;

operating the PDSN to translate the at least one Internet quality-of-service level into at least one corresponding air interface quality-of-service level;

5            sending the at least one air interface quality-of-service level from the PDSN to a base station; and

operating the base station to set up the at least one air interface quality-of-service level over an air interface between the base station and the mobile station.

10            22.    The method of claim 21, wherein operating the base station to set up the at least one air interface quality-of-service level over an air interface between the base station and the mobile station comprises:

operating the base station to validate the at least one air interface quality-of-service level; and

15            operating the base station to communicate with the mobile station over the air interface so as to set up the air interface quality-of-service level.

23.    A packet data serving node for use in a wireless packet data system, the packet data serving node comprising:

20            translation data mapping between air interface quality-of-service parameters and Internet quality-of-service parameters; and

a processor programmed to apply the translation data to map between air interface quality-of-service parameters and Internet quality-of-service parameters and to communicate air-interface quality-of-service information with a base station.

25            24.    A system comprising:

a base station in communication with a mobile station via an air interface;

the base station managing quality of service for communications with the mobile station via the air interface;

30            a packet data serving node providing connectivity with a packet-switched network;

the packet data serving node managing quality of service for communications with the mobile station via the packet-switched network;

the packet data serving node being communicatively coupled with the base station; and

- 5 the packet data serving node and base station being communicating quality of service information with each other so as to match (i) quality of service for communications with the mobile station via the first link with (ii) quality of service for communications with the mobile station via the packet-switched network.

09927816-031001  
FOOTNOTES